

REMARKS

Amendments

Claims 1-15 are amended to use language in accordance with conventional US practice and to delete unnecessary language. Additionally, claim 10 is amended to correct an error in dependency and to recite that polymerised liquid crystal material has a planar structure. See, e.g., page 8, line 6.

New claims 16-36 are directed to further aspects of applicants' claimed invention and are supported throughout the disclosure. See, e.g., the original claims, page 8, line 6, page 10, lines 17-20, page 10, lines 31-33, page 11, lines 1-25, page 11, line 32-page 12, line 21, page 12, line 33-page 13, line 4, page 14, lines 19-23, page 15, lines 12-17, and the Examples.

Rejection under 35 USC 102(b) in view of GB 2357061

Claims 1-15 are rejected as allegedly being anticipated in view of GB 2357061 (Coates et al.). This rejection is respectfully traversed.

GB '061 discloses a hot stamping foil comprising a layer of liquid crystal material. See, e.g., Figure 2 which illustrates such a hot stamping foil. Layer 1 is a hot melt adhesive. Layer 2 is a reflective layer such as a metal layer. Layer 6 is the layer of liquid crystal material. Layer 3 is a clear or colored lacquer. Layer 4 is a wax release layer, and layer 5 is a support such as a PET film. See page 6, lines 1-6.

In use, the hot stamp foil is placed on a substrate whereby the hot melt adhesive layer comes into contact with the substrate. A patterned hot metal stamp is placed against support layer 5 resulting in the melting of certain areas the wax release layer and the melting of certain areas of the hot melt adhesive which then adhere to the substrate. The hot stamp and hot stamping foil can then be removed resulting in the hot stamp foil being torn apart between the melted regions of wax release layer and the support whereas in the non-melted regions the hot stamping foil is completely removed from the substrate. These leaves behind an image formed from layers of adhesive 1, metal 2, liquid crystal material 6, and lacquer 3. See page 6, lines 8-25.

In the paragraph bridging pages 7-8, GB '061 discloses coating a layer of polymerizable liquid crystal material onto a plastic film and then polymerizing the liquid

crystal material. The polymerized liquid crystal film is then removed from the plastic film and laminated onto another plastic film and covered with a metal film or layer. Such a procedure clearly does not suggest a printing procedure.

In Example 1 of GB '061, the liquid crystal material is applied to a PVA layer using a bar coating technique and then cured and covered with an aluminum layer. This technique also does not suggest applying a liquid crystal material by printing.

In the rejection, reference is made to page 8, lines 10-12 of GB '061. This portion of the disclosure refers to a procedure of making the liquid crystal layer 6, i.e., "coat or laminate that layer of polymerizable liquid crystal material directly onto the reflective layer." It is noted that this disclosure does not mention printing. Further, this disclosure refers to the formation of a layer, not print or an image.

Nothing within the rejection suggests that one of ordinary skill in the art would consider forming a layer by coating or laminating to constitute printing.

In the rejection, it is asserted that "printing is broad." This is a merely a conclusion. The rejection offers no rationale as to why the "printing" is said to be broad. Moreover, regardless of whether the term is asserted to be broad or narrow, the rejection fails to indicate what broad definition of "printing" is being applied in the rejection.

The rejection also asserts that "the fact that 061 is for identification the end result is a print, and thus, printing take place in the form of coating and patterning." The rejection does not explain why any process which results in a means of identification being formed constitutes "printing."

It is correct that the use of the hot stamping foil of GB '061 results in the formation of an image, as described above. However, the process used by GB '061 to form the image does not suggest applicants' claimed process of preparing a birefringent marking.

Referring to the procedure described at pages 6 and 8 of GB '061, the polymerizable liquid crystal material layer 6 is coated or laminated onto the reflective layer and polymerized. The hot stamping foil would then be assembled. Thereafter, the hot stamping foil is applied to a substrate, a hot stamp is applied to support layer 5, and then an image is formed on the substrate. Such a procedure does not suggest **printing** a polymerizable liquid crystal material onto a reflective substrate, and then polymerising the liquid crystal material.

At page 18, lines 9-32, GB '061 describes how to achieve planar alignment of the

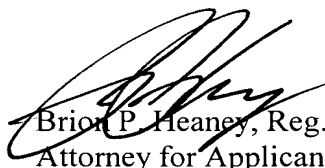
polymerizable liquid crystal material, such as by the use of an alignment layer, by rubbing or by adding surfactants. GB '061 does not disclose inducing or enhancing spontaneous alignment of the polymerizable liquid crystal material via a printing process. Compare claim 23. Additionally, GB '061 does not disclose or suggest a printing procedure whereby the birefringent marking is invisible under unpolarized light and is visible when viewed through a polariser. Compare claim 36.

The rejection refers to page 19, first full paragraph. This section of the disclosure refers to the formation of homeotropic alignment using an alignment layer. As described at page 10, lines 4-9, with a homeotropic alignment no effect is observed at normal incidence either between crossed polarizers or under unpolarized light.

In view of the above remarks, it is respectfully submitted that GB '061 fails to describe or suggest applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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